

1 **SECTION 8-17, IMPACT ATTENUATOR SYSTEMS**

2 **April 5, 2004**

3 This section is revised to read:

4

5 **8-17.1 Description**

6 This work shall consist of furnishing, constructing, repairing, and removing permanent
7 and temporary impact attenuator systems selected from the approved list shown in the
8 Plans.

9

10 **8-17.2 Materials**

11 Sand for inertial barrier systems shall not contain more than 5% water by weight.
12 Commercial grade urea shall be thoroughly mixed with the sand in an amount equal to 5
13 percent, by weight, of the sand.

14

15 Undamaged sand barrel impact attenuators that have been previously utilized may be
16 utilized in a temporary impact attenuator array only, if inspected and approved by the
17 Engineer prior to use.

18

19 **8-17.3 Construction Requirements**

20 The assembly and installation of all attenuator systems, except those utilizing sand
21 barrels, shall be supervised at all times by either a manufacturer's representative or an
22 installer who has been trained and certified by the manufacturer of the system. If the
23 supervision is provided by a trained installer, a copy of the installer certification shall be
24 provided to the Engineer prior to installation.

25

26 Assembly and installation shall be in accordance with the manufacturer's
27 recommendations. This work shall include the connection to a concrete barrier, bridge
28 abutment or a transition section identified in the Plans, construction of a steel reinforced
29 concrete pad or concrete backup, and anchorage to the pavement, if required by the
30 manufacturer's assembly and installation procedures.

31

32 The Contractor shall have a complete set of replacement parts on the jobsite for each
33 type of temporary impact attenuator in use on the project and shall repair all damaged
34 impact attenuators immediately.

35

36 When the Engineer determines that a temporary impact attenuator is no longer needed,
37 then the Contractor shall remove that attenuator from the project. The removed
38 equipment shall remain the property of the Contractor.

39

40 **8-17.4 Measurement**

41 Temporary and permanent impact attenuators will be measured per each for each
42 installation.

43

44 Resetting impact attenuators will be measured per each for each installation that is
45 adjusted or reset to a new location on the project. The Contracting Agency will not
46 measure resetting impact attenuators when it is for the benefit of the Contractor's
47 operations.

48

49 **8-17.5 Payment**

50 Payment will be made in accordance with Section 1-04.1, for the following bid items
51 when they are included in the proposal:

1
2 "Temporary Impact Attenuator", per each.
3 The unit contract price for "Temporary Impact Attenuator" shall be full pay for all
4 work associated with the installation, maintenance, and the final removal of the
5 temporary impact attenuator.
6
7 "Permanent Impact Attenuator", per each.
8 The unit contract price for "Permanent Impact Attenuator" shall be full pay for all
9 work associated with furnishing, installing and all other costs involved with
10 installing the impact attenuator in accordance with the manufacturer's
11 recommendations.
12
13 "Resetting Impact Attenuator", per each.
14 The unit contract price for "Resetting Impact Attenuator" shall be full pay for all
15 work associated with the removing, transporting, and resetting an impact
16 attenuator.
17
18 If an impact attenuator is damaged, it will be repaired in accordance with Section 1-
19 07.13(4) under the bid item "Reimbursement For Third Party Damage". No
20 payment will be made for repair of impact attenuators damaged by the Contractor's
21 operations.